



黄芩花粉离体萌发与花粉管生长研究

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中文摘要:目的:筛选黄芩花粉离体萌发和花粉管生长的最佳培养体系,为黄芩花粉活力测定提供一种高效的测定方法。方法:以二年生黄芩植株为材料,采用液体培养法研究了培养基种类、蔗糖、PEG、pH以及培养温度、培养时间对黄芩花粉离体萌发生长的影响。结果与结论:100 g · L⁻¹的蔗糖有利于花粉萌发和花粉管生长,高浓度蔗糖有明显抑制作用,PEG可促进花粉萌发发生,150 g · L⁻¹PEG为最适作用浓度,黄芩花粉可以在BK培养基上较好萌发生长,以BK+10%蔗糖+150 g · L⁻¹PEG(pH 5.8)培养效果最佳;25~35 °C条件下黄芩花粉均可良好萌发,但25 °C下花粉管生长明显减缓,其中以30 °C培养2~3 h花粉萌发发生生长最为良好。

中文关键词:黄芩 花粉 离体萌发 花粉管生长

Pollen germination *in vitro* and pollen tube growth of *Scutellaria baicalensis*

Abstract:Objective: To study the pollen germination *in vitro* and pollen tube growth of *Scutellaria baicalensis*. Method: Two years-old *S. baicalensis* that in the experiment field of Shangluo university were used as the materials. The effects of culture medium, sucrose, PEG, pH value, culture time and temperature on the pollen germination and tube growth of *S. baicalensis* were investigated using the method of liquid culture. Result and conclusion: The results showed that 100 g · L⁻¹ sucrose was helpful for the germination and growth of pollens. However, higher concentration of sucrose would inhibit strongly pollen germination and the growth of pollen tubes. PEG could accelerate pollen germination and tube growth, and the optimal concentration was 150 g · L⁻¹. The optimum culture medium was BK and BK+10% sucrose+150 g · L⁻¹ PEG (pH 5.8), and the latter was more benefit for pollen germination and tube growth. The pollen of germination was better at 25-35 °C, and it was the best at 30 °C for 2-3 hours, while pollen tube growth was slower at 25 °C.

keywords: *Scutellaria baicalensis*; pollen germination *in vitro*; growth of pollen tubes

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